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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,291	11/02/2001	Michael L. Clark	0095-203	9901

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EXAMINER

ORMAN, DARREN W

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/000,291

Applicant(s)

CLARK, MICHAEL L.

Examiner

Darren W Gorman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-20 is/are allowed.
- 6) ☐ Claim(s) 1-13, 15 and 21 is/are rejected.
- 7) ☐ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kah, Jr., USPN 4,272,024, in view of Kendall, USPN 4,360,037.

Kah shows a pop-up type irrigation sprinkler (1) comprising: an outer housing (2) having a lower inlet end (6) connectable to a source (158) of pressurized water; a riser (16) vertically reciprocable along a vertical axis within the outer housing between extended and retracted positions when the source of pressurized water is turned on and off; a nozzle (36) mounted at an upper end of the riser for distributing water therefrom; and a frusto-conical shaped strainer (30) mounted to a lower end of the riser inside the outer housing and configured to filter debris from water passing through the lower inlet end of the outer housing (see Figure 1; and column 3, lines 18-22).

However, Kah does not show a generally cylindrical scrubber mounted to the inlet end of the outer housing, the scrubber including a plurality of circumferentially spaced, vertically extending resilient arms each having a wiper blade at an upper end thereof for pressing against and scraping the strainer, so as to remove accumulated debris from the strainer.

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Kendall teaches a self-cleaning strainer assembly (10') wherein one embodiment (see Figure 8) shows a fixedly mounted scrubber (132') mounted in a coaxial relationship to an axially reciprocating strainer element (124'), wherein the scrubber includes a plurality of circumferentially spaced, vertically extending resilient arms (140'), each having a wiper blade (20') at an upper end thereof for pressing against and scraping the strainer, in order to remove accumulated filtered matter from the entire surface of the strainer (see Figure 8, and column 9, lines 3-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the filtering arrangement of the sprinkler head of Kah to include the fixed scrubber member fixedly mounted to the inlet end of the outer housing for allowing reciprocable movement of the strainer within the scrubber, as taught by Kendall, in order to dislodge and remove accumulated debris from the entire exterior of the strainer.

3. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kah, Jr., in view of Kendall, as applied to claim 1 above, and further in view of Robinson, USPN 1,212,404.

Kah, as modified, teaches all of the claimed elements as set forth in claim 1, however, Kah shows the strainer having uniform mesh and does not expressly teach the strainer having a finer mesh section made of a lattice of first openings of a first size, and a coarser mesh section made of a lattice of second openings of a second size larger than the first size.

Robinson teaches a strainer having a plurality of mesh sections (21, 22, 23), with a first mesh section (22) having a finer mesh made of a lattice of first openings of a first size, and a

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second mesh section (21) having a coarser mesh made of a lattice of second openings of a second size larger than the first size, such that by using sections of different mesh, the wires of the first mesh section will extend over the spaces of the second mesh section adjacent thereto and partly close the spaces, so that a much finer filtering action may be obtained than if the sections were of the same mesh (see Figures 1-5; and column 2, lines 81-97).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the strainer of the device of Kah to include sections of finer and coarser mesh, as taught by Robinson, so that a finer filtering action may be obtained.

4. Claims 11, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kah, Jr., in view of Robinson.

Kah shows a pop-up type irrigation sprinkler (1) comprising: an outer housing (2) having a lower inlet end (6) connectable to a source (158) of pressurized water; a riser (16) vertically reciprocable along a vertical axis within the outer housing between extended and retracted positions when the source of pressurized water is turned on and off; a nozzle (36) mounted at an upper end of the riser for distributing water therefrom; and a strainer (30) mounted to a lower end of the riser inside the outer housing and configured to filter debris from water passing through the lower inlet end of the outer housing (see Figure 1; and column 3, lines 18-22).

However, Kah shows the strainer having uniform mesh and does not expressly teach the strainer having a finer mesh section made of a lattice of first openings of a first size, and a coarser mesh section made of a lattice of second openings of a second size larger than the first size, the coarser mesh section being joined with the finer mesh section.

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Robinson teaches a strainer having a plurality of joined mesh sections (21, 22, 23), with a first mesh section (22) having a finer mesh made of a lattice of first openings of a first size, and a second mesh section (21) having a coarser mesh made of a lattice of second openings of a second size larger than the first size, such that by using sections of different mesh, the wires of the first mesh section will extend over the spaces of the second mesh section adjacent thereto and partly close the spaces, so that a much finer filtering action may be obtained than if the sections were of the same mesh (see Figures 1-5; and column 2, lines 81-97).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the strainer of the device of Kah to include joined sections of finer and coarser mesh, as taught by Robinson, so that a finer filtering action may be obtained.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kah, Jr., in view of Robinson, as applied to claim 11 above, and further in view of Kendall.

Kah, as modified, teaches all of the claimed elements as set forth in claim 11, however, Kah does not expressly teach a scrubber mounted within the outer housing and configured for scraping accumulated debris from the strainer.

Kendall teaches a self-cleaning strainer assembly (10') wherein one embodiment (see Figure 8) shows a fixedly mounted scrubber (132') mounted in a coaxial relationship to an axially reciprocating strainer element (124'), wherein the scrubber includes a plurality of circumferentially spaced, vertically extending resilient arms (140'), each having a wiper blade (20') at an upper end thereof for pressing against and scraping the strainer, in order to remove

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accumulated filtered matter from the entire surface of the strainer (see Figure 8, and column 9, lines 3-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a scrubber member as taught by Kendall, within the sprinkler head arrangement of Kah for allowing reciprocable movement of the strainer within the scrubber member, in order to dislodge and remove accumulated debris from the entire exterior of the strainer.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kah, Jr., in view of Robinson and Kendall.

Kah shows a pop-up type irrigation sprinkler (1) comprising: an outer housing (2) having a lower inlet end (6) connectable to a source (158) of pressurized water; a riser (16) vertically reciprocable along a vertical axis within the outer housing between extended and retracted positions when the source of pressurized water is turned on and off; a nozzle (36) mounted at an upper end of the riser for distributing water therefrom; and a strainer (30) mounted to a lower end of the riser inside the outer housing and configured to filter debris from water passing through the lower inlet end of the outer housing (see Figure 1; and column 3, lines 18-22).

However, Kah shows the strainer having uniform mesh and does not expressly teach the strainer having a finer mesh section and a coarser mesh section. Further, Kah does not expressly teach a scrubber mounted within the outer housing and configured for scraping accumulated debris from the strainer.

Robinson teaches a strainer having a plurality of mesh sections (21, 22, 23), with a first mesh section (22) having a finer mesh, and a second mesh section (21) having a coarser mesh, such that by using sections having different mesh, the wires of the first mesh section will extend over the spaces of the second mesh section adjacent thereto and partly close the spaces, so that a much finer filtering action may be obtained than if the sections were of the same mesh (see Figures 1-5; and column 2, lines 81-97).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the strainer of the device of Kah to include sections of finer and coarser mesh, as taught by Robinson, so that a finer filtering action may be obtained.

Kendall teaches a self-cleaning strainer assembly (10') wherein one embodiment (see Figure 8) shows a fixedly mounted scrubber (132') mounted in a coaxial relationship to an axially reciprocating strainer element (124'), wherein the scrubber includes a plurality of circumferentially spaced, vertically extending resilient arms (140'), each having a wiper blade (20') at an upper end thereof for pressing against and scraping the strainer, in order to remove accumulated filtered matter from the entire surface of the strainer (see Figure 8, and column 9, lines 3-15).

It would further have been obvious to one of ordinary skill in the art at the time the invention was made to include a scrubber member as taught by Kendall, within the sprinkler head arrangement of Kah for allowing reciprocable movement of the strainer within the scrubber member, in order to dislodge and remove accumulated debris from the entire exterior of the strainer.

Allowable Subject Matter

7. Claims 16-20 are allowed.
8. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed in paper # 13, regarding Examiner's prior art rejection under 35 U.S.C. § 103(a) as not properly satisfying the mandated requirements for *prima facie* obviousness for rejecting claims 1-8, have been fully considered but they are not persuasive.

The following is in response to Applicant's assertion on page 7 of paper #13, that there is nothing in either Kah, Jr. ('024) or Kendall ('037) which would suggest the desirability of including the fixed scrubber member of Kendall into the sprinkler of Kah, Jr. for the purpose of scraping debris off of the filter and valve device. Although Kah, Jr. is silent to the concept of cleaning accumulated debris from the axially reciprocating strainer (30) of the pop-up sprinkler disclosed in US Patent '024, it is well known in the art that filter elements do not operate at peak efficiency forever due to accumulation of debris/particulate matter contaminants, and that it is necessary to clean or replace a filter element on a regular basis in order for a filtered apparatus to perform at an optimum level. One of ordinary skill would therefore recognize the necessity to clean or replace the strainer of Kah, Jr. on a regular basis, since as with all filters, accumulated

contaminants would build-up in the strainer and negatively affect the performance of the sprinkler. Since the apparatus of Kendall teaches a self-cleaning strainer assembly wherein a fixedly mounted scrubber element (132') is mounted coaxially with an axially reciprocating strainer (124') such that accumulated debris is dislodged from the strainer with each on and off cycle, it is reasonable to suggest the desirability to include the scrubber taught by Kendall with the sprinkler of Kah, Jr. in order to have a self-cleaning strainer arrangement for the sprinkler.

In response to applicant's argument on page 7, paper #13, that if the scraper structure (132') of Kendall were mounted in the lower end of cylinder housing (2) of the Kah, Jr. sprinkler, it would block threaded opening (6) thus rendering the modified Kah, Jr. sprinkler inoperable, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

10. Applicant's remarks/arguments with respect to claims 9-13, 15, and 21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to North et al., Mullaney, Harstick, and Lieberman, are cited as of interest.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W Gorman whose telephone number is 703-306-4205.

The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on 703-308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Darren W Gorman
Examiner
Art Unit 3752

DWG 2/17/04
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February 17, 2004


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